WE CLAIM:

1. A system for provisioning a provisionable network device with a boot file, the system comprising:

a communication link; and

a dynamic configuration server (DCS) connected to the communication link, the DCS adapted to:

generate one or more boot file templates, wherein each of the one or more boot file template comprises one or more attributes associated with the provisionable network device;

receive a boot file request from the provisionable network device via the communication link, wherein the boot file request comprises a boot file template identifier;

select a boot file template based on the boot file template identifier;

assign each of the one or more attributes of the selected boot file template an attribute value based on the boot file identifier to create the boot file; and

send the boot file via the communication link to the provisionable network device to provision the provisionable network device with the boot file.

2. The system of claim 1, wherein the communication link is an IP network.

3. The system of claim 2, wherein the DCS is a TFTP server.

4. The system of claim 1 wherein the boot file request comprises a boot file template identifier.

5. The system of claim 4, wherein the boot file template identifier is a boot file filename.

6. The system of claim 5, wherein the boot file filename comprises a designated attribute value for each attribute of the selected boot file template, and wherein the DCS

is further adapted to extract each designated attribute value from the boot file filename and to assign each designated attribute value to the attribute to which it is designated.

7. The system of claim 4, wherein the boot file template identifier is a MAC address associated with an attribute value record.

8. The system of claim 7, wherein the attribute value record comprises a designated attribute value for each attribute of the selected boot file template, and wherein the DCS is further adapted to extract each designated attribute value from the attribute value record and to assign each designated attribute value to the attribute to which it is designated.

9. The system of claim 1, wherein the provisionable network device is a DOCSIS-compliant device.

10. The system of claim 1, wherein the provisionable network device is a PacketCable compliant device.

11. The system of claim 1, wherein the provisionable network device is a CableHome compliant device.

12. The system of claim 1, wherein the provisionable network device is selected from the group consisting of a router, a switch, and a server.

13. The system of claim 1, wherein the provisionable network device is connected to a network and wherein the DCS is further adapted to:

generate a first message integrity check (MIC) by computing a hash of the attributes and the attribute values of the boot file and a shared key; and

append the first MIC to the boot file; and

wherein the system further comprises a network registration server adapted to:

receive the boot file from the provisionable network device;

generate a second MIC by computing a hash of the attributes and the attribute values as received by the registration server and the shared key;

make a determination if the first MIC and the second MIC are the same;

in the event that the first MIC and the second MIC are the same, register the provisionable network device with the network thereby allowing the provisionable network device to operate on the network.

14. The system of claim 13, wherein the DCS is further adapted to:

determine if the shared key has changed; and

in the event the DCS key has changed, communicate the shared key to the network registration server.

15. A method for provisioning a provisionable network device with a boot file, the method comprising:

generating one or more boot file templates, wherein each boot file template comprises one or more attributes associated with the provisionable network device;

receiving a boot file request from the provisionable network device via a communication link, wherein the boot file request comprises a boot file template identifier;

selecting a boot file template based on the boot file template identifier;

assigning each of the one or more attributes of the selected boot file template an attribute value based on the boot file identifier so as to create the boot file; and

sending the boot file to the provisionable network device via the communication link so as to provision the provisionable network device with the boot file.

16. The method for provisioning a provisionable network device with a boot file of claim 15, wherein the communication link is an IP network.

17. The method for provisioning a provisionable network device with a boot file of claim 16, wherein the DCS is a TFTP server.

18. The method for provisioning a provisionable network device with a boot file of claim 15 wherein the boot file request comprises a boot file template identifier.

19. The method for provisioning a provisionable network device with a boot file of claim 18, wherein the boot file template identifier is a boot file filename.

20. The method for provisioning a provisionable network device with a boot file of claim 19, wherein boot file filename comprises a designated attribute value for each attribute of the selected boot file template, and wherein assigning each of the one or more attributes of the selected boot file template an attribute value based on the boot file identifier so as to create the boot file comprises:

extracting the designated attribute values from the boot file filename; and

assigning each designated attribute value to the attribute to which it is designated.

21. The method for provisioning a provisionable network device with a boot file of claim 19, wherein the boot file template identifier is a MAC address associated with an attribute value record.

22. The method for provisioning a provisionable network device with a boot file of claim 21, wherein the attribute value record comprises a designated attribute value for each attribute of the selected boot file template and wherein assigning each of the one or more attributes of the selected boot file template an attribute value based on the boot file identifier so as to create the boot file comprises:

extracting the designated attribute values from the attribute value record; and

assigning each designated attribute value to the attribute to which it is designated..

23. The method for provisioning a provisionable network device with a boot file of claim 15, wherein the provisionable network device is a DOCSIS-compliant device.

24. The method for provisioning a provisionable network device with a boot file of claim 15, wherein the provisionable network device is a PacketCable compliant device.

25. The method for provisioning a provisionable network device with a boot file of claim 15, wherein the provisionable network device is a CableHome compliant device.

26. The method for provisioning a provisionable network device with a boot file of claim 15, wherein the provisionable device is selected from the group consisting of a router, a switch, and a server.

27. The method for provisioning a provisionable network device with a boot file of claim 19, wherein the DCS comprises an indexed hash table and wherein generating the boot file from one of the one or more boot file templates based on the boot file request comprises:

computing a hash of the boot file filename;

making a first determination whether the computed hash matches an indexed hash on the indexed hash table associated with one of the one or more boot file templates; and

in the event the computed hash matches an indexed hash on the indexed hash table, selecting the boot file template associated with the indexed hash.

28. The method for provisioning a provisionable network device with a boot file of claim 19, wherein the DCS comprises an indexed hash table and wherein generating the boot file from one of the one or more boot file templates based on the boot file request comprises:

computing a hash of the boot file filename;

making a first determination whether the computed hash matches an indexed hash on the indexed hash table associated with one of the one or more boot file templates; and

in the event the computed hash does not match an indexed hash on the indexed hash table, making a second determination whether the boot file filename identifies one of the one or more boot file templates; and

in the event that the boot file filename identifies one of the one or more boot file templates, selecting the boot file template identified by the boot file filename, associating the computed hash with the selected boot file template, and adding the computed hash to the indexed hash table.

29. The method for provisioning a provisionable network device with a boot file of claim 15, wherein the provisionable network device is connected to a network and wherein the method further comprises:

generating a first message integrity check (MIC) by computing a hash of the attributes and the attribute values of the boot file and a shared key;

appending the first MIC to the boot file;

sending the boot file from the provisionable network device to a network registration server;

at the network registration server, generating a second MIC by computing a hash of the attributes and the attribute values as received by the registration server and the shared key;

making a determination if the first MIC and the second MIC are the same; and

in the event that the first MIC and the second MIC are the same, registering the provisionable network device with the network thereby allowing the provisionable network device to operate on the network.

30. The method for provisioning a provisionable network device with a boot file of claim 29, wherein the method further comprises:

at the DCS, determining if the shared key has changed; and

in the event the shared key has changed, communicating the shared key to the registration server via the communications link.